RECEIVED
CENTRAL FAX CENTER
JUN 08 2004

JENKINS, WILSON & TAYLOR, P.A.

OFFICIAL

PATENT ATTORNEYS

SUITE 1400 UNIVERSITY TOWER
3100 TOWER BOULEVARD
DURHAM, NORTH CAROLINA 27707
TELEPHONE: (919) 493-8000
FACSIMILE: (919) 419-0383

WEBSITE: WWW.JENKINSWILSONTAYLOR.COM

DATE: June 8, 2004

TO: Art Group Unit 1600 (for Group 1646)

FAX NO.: (703) 872-9306

FROM: Arles A. Taylor, Jr. (ptw)

RE: Serial No. 10/029,413; Atty Docket No. 421/29/2

NUMBER OF PAGES TO FOLLOW: 7

If transmission is poor, or if you do not receive all pages, please call (919) 493-8000 as soon as possible.

COMMENTS:

Attachment: Transmittal Letter (1 page);
Response to Restriction Requirement (6 pages).

The information contained in this facsimile message is **ATTORNEY PRIVILEGED AND CONFIDENTIAL INFORMATION** intended only for the use of the individual or entity named as recipient. If the reader is not the intended recipient, be hereby notified that any dissemination, distribution or copy of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by phone and return the original message to us at the address shown above via the U.S. Postal Service. Thank you.

RECEIVED
CENTRAL FAX CENTER
JUN 08 2004

JENKINS WILSON & TAYLOR | patent attorneys

June 8, 2004

OFFICIAL

I hereby certify that this paper is being facsimile transmitted to the United States Patent and Trademark Office on the date shown below.

Patty Wilson
Date of Signature June 8, 2004

RICHARD E. JENKINS
JEFFREY L. WILSON
ARLES A. TAYLOR, JR.
GREGORY A. HUNT
E. ERIC MILLS
BENTLEY J. OLIVE
MICHAEL J. CROWLEY
*CHRIS PERKINS, PH.D.
**JAMES DALY IV, PH.D.
JEFFREY CHILDERS, PH.D.
OF COUNSEL
SOROJINI BISWAS
*LICENSED ONLY IN CA
**LICENSED ONLY IN KY

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Re: U.S. Patent Application Serial No. 10/029,413 for
PURIFIED AND ISOLATED PLATELET CALCIUM CHANNEL NUCLEIC ACIDS AND POLYPEPTIDES AND THERAPEUTIC AND SCREENING METHODS USING SAME
Our Ref. No. 421/29/2

Sir:

Please find attached the following:

1. Response to Restriction Requirement (6 pages).

Please contact our offices if there are any questions.

The Commissioner is hereby authorized to charge any fees associated with the filing of this correspondence to Deposit Account No. **50-0426**.

Respectfully submitted,

JENKINS, WILSON & TAYLOR, P.A.

Arles A. Taylor, Jr.
Registration No. 39,395

AAT/ptw
Enclosures
Customer No: 25297

PAGE 2/8 * RCVD AT 6/8/2004 3:43:42 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/6 * DNIS:8729306 * CSID:9194190383 * DURATION (mm-ss):02-14

RECEIVED
CENTRAL FAX CENTER
JUN 08 2004

OFFICIAL

I hereby certify that this paper is being facsimile transmitted to the United States Patent and Trademark Office on the date shown below.

Patty Wilson
Date of Signature June 8, 2004

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Malouf et al.

Group Art Unit: 1646

Serial No.: 10/029,413

Examiner: Murphy, Joseph F.

Filed: December 20, 2001

Docket No.: 421/29/2

Confirmation No.: 3695

For: PURIFIED AND ISOLATED PLATELET CALCIUM CHANNEL NUCLEIC ACIDS AND POLYPEPTIDES AND THERAPEUTIC AND SCREENING METHODS USING SAME

****

RESPONSE TO RESTRICTION/ELECTION REQUIREMENT AND AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is responsive to the Restriction/Election Requirement dated March 8, 2004, having a 1-month term for Response that expired on April 8, 2004. A Petition for a 2-month Extension of Time is filed herewith extending the time for response up to and including June 8, 2004. Please charge Deposit Account No. 50-0426 in the amount of $210.00. Favorable consideration is respectfully requested in view of the following Election and Remarks.

Application Serial No.: 10/029,413

RESTRICTION PRESENTED

The claims have been restricted into the following groups of inventions:

Groups	Claims	Subject Matter
I-X		1-4 drawn to a polypeptide encoded by ONE of the following: SEQ ID NO: I, 3, 5, 6, 7, 8,28 or 29; or the polypeptide of SEQ ID NO: 2,4.
XI-XX		5- 7,22-28 drawn to an antibody which binds to ONE of the following: SEQ ID NO: I, 3, 5,6,7 , 8,28 or 29; or the polypeptide of SEQ ID NO: 2,4.
XXI-XXX		8-17,34-37,42 drawn to a nucleic acid molecule of ONE of the following: SEQ ID NO: 1, 3, 5, 6, 7, 8, 28 or 29; or which encodes a polypeptide of SEQ ID NO: 2,4, vectors and host cells.
XXXI-XL		18-20 drawn to a method of producing an antibody which binds to ONE of the following: SEQ ID NO: 1,3,5,6,7,8,28 or 29; or the polypeptide of SEQ ID NO: 2,4.
XLI-L		21 drawn to a method of using an antibody which binds to ONE of the following: a polypeptide encoded by SEQ ID NO: 1, 3, 5, 6, 7, 8, 28 or 29; or the polypeptide of SEQ ill NO: 2, 4.
LI-LX		29-33 drawn to a method of hybridization using a nucleic acid molecule of ONE of the following: SEQ ID NO: 1,3,5,6,7 ,8, 28 or 29; or which encodes a polypeptide of SEQ ID NO: 2,4.
LXI-LXX		38-41,43-52 drawn to a method of screening a compound which modulates a platelet VDCC activity wherein the polypeptide encoded by ONE of the following: SEQ ID NO: 1,3,5,6,7,8,28 or 29; or the polypeptide of SEQ ID NO: 2, 4.

PAGE 4/8 * RCVD AT 6/8/2004 3:43:42 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/6 * DNIS:8729306 * CSID:9194190383 * DURATION (mm-ss):02-14

LXXI	53-54 drawn to a pharmaceutical composition comprising a modulator of the VDCC polypeptide.
LXXII-LXXXI	55-60 drawn to a method for modulating VDCC polypeptide by transfection with a nucleic acid molecule of ONE of the following: SEQ ID NO: 1, 3, 5, 6, 7, 8, 28 or 29; or which encodes a polypeptide of SEQ ID NO: 2, 4.
LXXXII-XCI.	61-62 drawn to a transgenic animal comprising a nucleic acid molecule of ONE of the following: SEQ ID NO: 1,3,5,6,7,8,28 or 29; or which encodes a polypeptide of SEQ ID NO: 2, 4.

APPLICANTS' ELECTION

Applicants hereby elect the invention of Group XXI, claims 8-17, 34-37 and 42, drawn to a nucleic acid molecule of ONE of the following: SEQ ID NO: 1, 3, 5, 6, 7, 8, 28 or 29; or which encodes a polypeptide of SEQ ID NO: 2,4, vectors and host cells, for prosecution at this time. Applicants also elect the sequence of SEQ ID NO: 1. As set forth below, this election is made with a traverse in part of the Restriction Requirement. Applicants hereby reserve the right to file one or more divisional application(s) directed to the unelected subject matter.

REMARKS

Claims 1-62 are now pending in the subject U.S. patent application. Claims 1-62 as filed have been subjected to a Restriction/Election Requirement.

In response to the Restriction/Election Requirement, applicants have elected the claims of Group XXI, claims 8-17, 34-37 and 42, for prosecution at this time. Applicants have also elected the species corresponding to sequence of SEQ ID NO: 1.

In addition to the election presented above, applicants respectfully traverse in part the finding by the Patent Office the sequences of each SEQ ID NOs: 1-8, 28,

PAGE 5/8 * RCVD AT 6/8/2004 3:43:42 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/6 * DNIS:8729306 * CSID:9194190383 * DURATION (mm-ss):02-14

and 29 should be subjected to restriction. The grounds for this traversal are focused on the apparent assertion by the Patent Office that it would unduly burdensome to search all of these sequences.

Applicants have elected hereinabove the subject matter of Group XXI, claims 8-17, 34-37 and 42, which are directed to isolated nucleic acids encoding platelet VDCC α_1 subunit polypeptides. It appears that the Patent Office is requiring that only one nucleic acid sequence be elected for prosecution at this time. It is this aspect of the instant Restriction Requirement that application respectfully traverse as being contrary to the examination rules set forth in the Manual of Patent Examining Procedure (hereinafter the "MPEP"). According to MPEP § 803.04, "It has been determined that normally ten sequences constitute a reasonable number for examination purposes. Accordingly, in most cases, up to ten independent and distinct nucleotide sequences will be examined in a single application without restriction". Thus, applicants respectfully submit that MPEP § 803.04 indicates that a search of the eight sequences set forth in SEQ ID NOs: 1-8, 28, and 29 would not constitute an undue burden on the Patent Office.

To elaborate, disclosed and claimed are isolated nucleic acids that encode novel human VDCC α_1 polypeptides (for example, an α1S nucleic acid disclosed as SEQ ID NO: 1 and an α1D nucleic acid disclosed as SEQ ID NO: 3). Also disclosed and claimed are partial cDNAs for additional novel human platelet VDCC family members (representative embodiments set forth in SEQ ID NOs: 5 and 6) and novel isoforms from porcine sources (representative embodiments set forth in SEQ ID NOs:7-8). Also disclosed and claimed are the nucleic acid sequences of the splice junctions from human α1D and α1S (SEQ ID NOs: 28 and 29). Thus, eight (8) sequences are referenced in the elected claims by SEQ ID NOs. 1-8, 28, and 29.

As disclosed in the present U.S. patent application, cDNA cloning of a major, pore forming α1 subunit of the long-activating (L-type) dihydropyridine (DHP) sensitive VDCC from skeletal muscle, α1S, has led to the proposed structural model for all α1 subunits shown in Figure 1 of the present U.S. patent application. This

PAGE 6/8 * RCVD AT 6/8/2004 3:43:42 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/6 * DNIS:8729306 * CSID:9194190383 * DURATION (mm-ss):02-14

model predicts that the encoded polypeptide contains four homologous but not identical tandem motifs (I-IV) that are made up of six transmembrane regions (S1 - S6) each. This α1 subunit contains sequences that convey to the channel calcium selectivity, voltage and pharmacological sensitivities, gating properties, and susceptibility to bind with other subunits and neighboring proteins. While α1S is the major subunit from L-type VDCC in skeletal muscle, α1D is that from neuro-endocrine cells.

The gene structure of platelet VDCC α1 subunits derived from human megakaryocytes and porcine platelets is depicted in Figure 1 of the instant specification. A feature of platelet VDCC α1 subunits as compared with known VDCC α1 subunits is indicated as a missing sequence in the IV S3 – S4 linker.

Thus, in view of the structural and functional relationships noted above and in view of the fact that now only eight (8) sequences are referenced in the claims, applicants respectfully submit that the sequences of SEQ ID NOs: 1-8 and 28-29 can be searched without an undue burden. Applicants therefore respectfully submit that a search by the Patent Office can begin based on the election of SEQ ID NO: 1 herein, and can proceed to the additional sequences of SEQ ID NOs: 2-8 and 28-29. See MPEP § 803.04. Accordingly, applicants respectfully request that SEQ ID NOs: 1-8 and 28-29 all remain pending in the instant prosecution, and that the claims be examined in light of these sequences.

CONCLUSIONS

Should there be any minor issues outstanding in this matter, the Examiner is respectfully requested to telephone the undersigned attorney. Early passage of the subject application to issue is earnestly solicited.

PAGE 7/8 * RCVD AT 6/8/2004 3:43:42 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/6 * DNIS:8729306 * CSID:9194190383 * DURATION (mm-ss):02-14

Application Serial No.: 10/029,413

Deposit Account

The Commissioner is hereby authorized to charge any fees associated with the filing of this correspondence to Deposit Account Number **50-0426**.

Respectfully submitted,

JENKINS, WILSON & TAYLOR, P.A.

Date: 06/07/2004 By: _____

Arles A. Taylor, Jr.
Registration No. 39,395

421/29/2 AAT/CPP/ptw

Customer No: 25297

PAGE 8/8 * RCVD AT 6/8/2004 3:43:42 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/6 * DNIS:8729306 * CSID:9194190383 * DURATION (mm-ss):02-14